03050201-040

(East Branch Cooper River)

General Description

Watershed 03050201-040 is located in Berkeley and Charleston Counties and consists primarily of the ***East Branch Cooper River*** and its tributaries. The watershed occupies 123,180 acres of the Lower Coastal Plain region of South Carolina. The predominant soil types consist of an association of the Yauhannah-Yemassee-Chipley-Hobcaw series. The erodibility of the soil (K) averages 0.15 and the slope of the terrain averages 1%, with a range of 0-2%. Land use/land cover in the watershed includes: 77.8% forested land, 16.5% forested wetland, 3.1% scrub/shrub land, 2.0% water, and 0.6% agricultural land.

The East Branch Cooper River is formed by the confluence of Huger Creek and Quinby Creek. Prior to the confluence, Huger Creek accepts drainage from Nicholson Creek (Kutz Creek, Darlington Creek, Darlington Swamp, Cooks Creek, Jericho Branch, Fourth of July Branch), Turkey Creek (Huitt Branch, Old Man Lead, Oakie Branch, Muddy Creek, Fox Gully Branch), Negro Field Branch, and Gough Creek (Alligator Creek, Midway Reserve, Little Hellhole Reserve, Little Hellhole Bay, Quarterman Branch, Upper Reserve, Upper Reserve). Quinby Creek accepts drainage from Harleston Dam Creek (Cropnel Dan Creek), Northampton Creek, Bennett Branch, Deep Branch, Pinckney Reserve Branch, Menzer Run, and York Bottom Creek. Bennett Branch flows through a 50-acre recreational pond, and the Hester Canal bypasses Quinby Creek near its mouth. The entire area prior to the confluence of Huger and Quinby Creeks is within the Francis Marion National Forest.

Downstream of the confluence, the East Branch Cooper River receives drainage from Mayrant Lead, French Quarter Creek (Chipper Swamp, Freshing Lead), and Big Dam Lead (Comingtee Creek). There are a total of 161.2 stream miles and 559.2 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
RS-02483	RS02	FW	TURKEY CREEK AT FOREST SERVICE RD 251 IRISHTOWN FM SC 402
CSTL-123	INT	FW	EAST BRANCH COOPER RIVER AT BONNEAU FERRY PLANTATION

Turkey Creek (RS-02483) - Aquatic life uses are not supported due to dissolved oxygen and pH excursions. Recreational uses are partially supported due to fecal coliform bacteria excursions.

East Branch Cooper River (CSTL-123) - Aquatic life and recreational uses are fully supported. Aquatic macrophytes have proliferated and public access has been restricted in the Bonneau Ferry area of the river. To reduce aquatic plant growth and enhance public access and use, aquatic herbicides were applied in 2004 and 2005.

A fish consumption advisory has been issued by the Department for mercury and includes the East Branch Cooper River within this watershed (see advisory p.69).

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-023	GB	BLACK MINGO	CAINHOY HIGH SCHOOL

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
EAST BRANCH COOPER RIVER CAROLINA LOWCOUNTRY GS COUNCIL PIPE #: 001 FLOW: 0.012	SC0033073 MINOR DOMESTIC
FRENCH QUARTER CREEK FRENCH QUARTER CREEK MINE PIPE #: 001 FLOW: M/R	SCG730086 MINOR INDUSTRIAL

Nonpoint Source Management Program

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
FRENCH QUARTER CREEK INVESTORS FRENCH QUARTER MINE	0873-15 SAND/CLAY

Growth Potential

There is a low potential for growth expected in this watershed, which is almost entirely within the Francis Marion National Forest. There are numerous historic structures located in the area, and great public sentiment to preserve the historic character of the area.

Watershed Protection and Restoration

Total Maximum Daily Loads (TMDLs)

Two TMDLs addressing dissolved oxygen were developed by SCDHEC for the ***Charleston Harbor Estuary:*** one covering the Ashley River and the other covering the Charleston Harbor, the Cooper River, and the Wando River. The Harbor/Cooper River/Wando River portion of the system (consisting of the Tail Race Canal, West Branch Cooper River, East Branch Cooper River, Shipyard Creek, Town Creek, Back River, Goose Creek, Wando River and Charleston Harbor) is not considered to be impaired with respect to dissolved oxygen (with the exception of the Wando River monitoring site MD-115); however, available information indicates much of the system does not meet the applicable water quality standard for dissolved oxygen for significant periods of time and is considered water quality limited for the purposes of wasteload allocation (WLA) development. WLAs are an integral part of a TMDL, and although not always developed through the TMDL process, the Department and EPA have chosen to use the TMDL process to develop WLAs for the Charleston Harbor system (see following

section). Results of a water quality model indicate the need for a 70% reduction in discharge of oxygen demanding substances to the overall system. A phased approach to achieving these reductions is proposed with an initial Phase I reduction of 60%. For more detailed information on TMDLs, please visit the SCDHEC's Bureau of Water homepage at http://www.scdhec.gov/water and click on "Watersheds and TMDLs" and then "TMDL Program".

Special Models

Charleston Harbor System TMDLs

The modeling efforts for Charleston Harbor and its tributaries have been completed and phased TMDLs for the Ashley and the Cooper systems have been issued by the Department and approved by EPA Region 4. Interim TMDL limits were included in NPDES permits for a number of dischargers while final TMDL limits were included for some dischargers who were already meeting the final limits. Permits included compliance schedules that allowed the opportunity for additional modeling work to be completed before compliance with final limits is required. A group of dischargers working through the local Councils of Government has initiated another modeling effort that is currently underway. If this effort is successfully completed within the allotted time, the existing TMDLs will be revised and, as appropriate, new limits incorporated into NPDES permits for discharges covered by the TMDL.